

CLAIMS

1. A thin film phototransistor, comprising:

a gate electrode;

5 a gate insulation film provided on the gate electrode;

a photosensitive semiconductor film laminated on the
gate insulation film;

a source electrode provided on the photosensitive
semiconductor film; and

10 a drain electrode provided on the photosensitive
semiconductor film,

an end portion of the source electrode and an end
portion of the drain electrode being separated with a
predetermined distance,

15 the source electrode and/or the drain electrode
including a superimposition area for being horizontally
superimposed on the gate electrode, and the superimposition
area including at least one portion having translucency.

20 2. The thin film phototransistor as set forth in claim 1,
wherein:

the portion having translucency is formed by a
transparent conductive film in the source electrode and/or in
the drain electrode.

- 36 -

3. The thin film phototransistor as set forth in claim 2,
wherein:

the transparent conductive film is a transparent
conductive oxide film.

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4. The thin film phototransistor as set forth in claim 1,
wherein:

the source electrode and/or the drain electrode is
formed by a metal film, and the portion having translucency
10 is formed by providing an opening section.

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5. An active matrix substrate, comprising:

electrical wirings in a form of a lattice pattern;

a switching thin film transistor provided for each square
15 of the lattice pattern and connected to the electric wirings;
and

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a photo-sensor thin film transistor connected to the
switching thin film transistor, the photo-sensor thin film
transistor being made of the thin film phototransistor as set
forth in any one of claims 1 through 4.

6. An active matrix substrate, comprising:

electrical wirings in a form of a lattice pattern; and

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a thin film transistor provided for each square of the
lattice pattern and connected to the electric wirings, the thin

- 37 -

film transistor having both a switching function and a photo-sensing function, the thin film transistor being made of the thin film phototransistor as set forth in any one of claims 1 through 4.

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7. The active matrix substrate as set forth in claim 5 or 6, wherein:

a drain electrode of the thin film phototransistor is connected to a charge accumulation capacitor.

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8. The active matrix substrate as set forth in claim 5 or 6, wherein:

the electric wirings in a form of a lattice pattern include a wiring connected to a source electrode of the thin film phototransistor, and the wiring is made of a transparent conductive film and formed on a same layer as that on which the source electrode is formed.

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20 9. The active matrix substrate as set forth in claim 8, wherein:

the transparent conductive film is a transparent conductive oxide film.

25 10. The active matrix substrate as set forth in claim 5 or 6, wherein:

- 38 -

the electric wirings in a form of a lattice pattern include a wiring connected to a source electrode of the thin film phototransistor, and the wiring is made of a transparent conductive film and a metal film, and the transparent conductive film is formed on a same layer as that on which the source electrode is formed.

11. The thin film phototransistor as set forth in claim 10, wherein:

10 the transparent conductive film is a transparent conductive oxide film.

12. An image scanning device, comprising:
the active matrix substrate as set forth in claims 5
15 through 11, as two dimensional image scanning means.

13. The image scanning device as set forth in claim 12,
further comprising:

20 light irradiating means for carrying out light irradiation with respect to the active matrix substrate, the light irradiating means being provided on a side opposite to a side for image scanning of the active matrix substrate.